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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/559,901	12/08/2005	Stefan Mangold	PHUS030181	9614
24737 7590 04/02/2009 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510				
EXAMINER				
LAM, DUNG LE				
ART UNIT		PAPER NUMBER		
2617				
MAIL DATE		DELIVERY MODE		
04/02/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/559,901

Applicant(s)

MANGOLD, STEFAN

Examiner

DUNG LAM

Art Unit

2617

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)–(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Information Disclosure Statement submitted on 12/8/05 has been considered by the examiner (see attached PTO-1449 form).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim(s) **1-30** is/are rejected under 35 U.S.C. 103(a) as being unpatentable over **Sawyer** (WO 02/03717A2) in view of **Nitin** (A Multi-Channel CSMA Mac Protocol with Receiver base channel selection for Multi-hop wireless networks).

1. Regarding **claim 1 and 8**, **Sawyer** teaches a system for coordinating radio resource usage in a frequency band, comprising:

- a plurality of radio systems (20A-C) (fig. 1, page 1), wherein the plurality of radio systems (20A-C) includes a reference channel radio system (20A) (page 5 L9-17),
- a narrow channel radio system (20B) and a wide channel radio system (20C) (page 6 lines 9-17), and
- wherein a reference channel bandwidth (22) is defined based on the reference channel radio system (20A); and a set of spectrum etiquette rules for coordinating radio resource usage by the plurality of radio systems (20A-C), wherein the set of spectrum etiquette rules includes a channel switching rule for determining a frequency channel of operation for the narrow channel radio system (20B) based on a proximity of the frequency channel of operation to an in-use frequency channel of operation that is associated with the narrow channel radio system (20B) (page 6 line 26 to page 7 line 14).

However, Sawyer does not teach unlicensed frequency band. In an analogous art, **Nitin** teaches unlicensed frequency (Wireless LANs, first page, right column, first paragraph; page 3). Therefore, it would have been obvious for one of ordinary skill in the art to bring Sawyer's teaching of the bandwidth etiquette to apply to Nitin's unlicensed frequency system to minimize interference.

2. Regarding claim **2 and 9**, **Sawyer** and **Nitin** teach the system of claim 8, wherein the set of spectrum etiquette rules further includes a bandwidth selection rule for limiting a bandwidth consumption of the wide channel radio system (20C) to the reference

channel bandwidth (22) based on a bandwidth requirement of the wide channel radio system (20C), wherein the wide channel radio system will have a bandwidth consumption less than the reference channel bandwidth (22) unless the wide channel radio system (20C) requires more bandwidth than the reference channel bandwidth (22) (page 6 line 26 to page 7 line 14).

3. Regarding claim **3 and 10**, **Sawyer** and **Nitin** teach the system of claim 9, wherein the set of spectrum etiquette rules further includes a power selection rule for limiting a power consumption of the wide channel radio system (20C) to a predetermined level based on the bandwidth consumption, wherein the power consumption decreases as the bandwidth consumption increases (**Sawyer**, more bandwidth less power, page 7 line 3 to 14, p.6 L21-27).

4. Regarding claim **4 and 11**, **Sawyer** and **Nitin** teach the system of claim 8, wherein the set of spectrum etiquette rules further includes a deferring listen before talk (LBT) rule for requiring the reference channel radio system (20A) and the narrow channel radio system (20B) to scan for an open frequency channel before communicating (3rd page, right column Item# 1a-1c; senses all the channels first before sending data to avoid collision, Nitin).

5. Regarding claim **7, 13, 29 and 30**, **Sawyer** and **Nitin** teach the system of claim 1, wherein the plurality of radio systems (20A-C) comprises a reference channel radio system (20A), a narrow channel radio system (20B) and a wide channel radio system

(20C), and wherein the at least one radio system (20B) includes the narrow channel radio system (20B) (Sawyer teaches both wide band and narrow band channels, Abstract and page 5 and see Figure 6).

6. Regarding claim **5 and 12**, **Sawyer** and **Nitin** teach the system of claim 8 wherein the set of spectrum etiquette rules further includes a channelized LBT rule for requiring the narrow channel radio system (20B) to scan all frequency channels (f.sub.1-f.sub.3) within the reference channel bandwidth (22) before communicating (3rd page, right column Item# 1a-1c; senses all the channels first before sending data to avoid collision, Nitin).

7. Regarding claim **6 and 13**, **Sawyer** and **Nitin** teach the system of claim 8, wherein the set of spectrum etiquette rules further includes a synchronized LBT rule for requiring the narrow channel radio system (20B) to synchronize a LBT process in time across neighboring frequency channels (f.sub.1-f.sub.3) within the reference channel bandwidth (22) (3rd page, right column Item# 1a-1c; senses all the channels first before sending data to avoid collision, Nitin).

8. Regarding claims **14-20**, they have the corresponding limitations as claims 1-7. Therefore, they are rejected for the same reasons as claims 1-7.

9. Regarding claims **21-28**, they have the corresponding limitations as claims 1-7. Therefore, they are rejected for the same reasons as claims 14-20.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DUNG LAM whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 9 - 5:30 pm, Every Other Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617